

FLIGHT

The
AIRCRAFT
ENGINEER
&
AIRSHIPS

First Aero Weekly in the World

Founder and Editor: STANLEY SPOONER

A Journal devoted to the Interests, Practice, and Progress of Aerial Locomotion and Transport
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EDITORIAL COMMENT



ACCORDING to the aeronautical correspondent of *The Times*, there appears to be a grave danger of the Aerodynamics Department of the N.P.L. being closed down through a rearrangement of the allocation of funds. Hitherto money for this department has been forthcoming as part of the sum voted for the Laboratory in the Civil Service Estimates. The Treasury, it is reported, now proposes to transfer the expenses incurred by the maintenance of this department to the Air Estimates, which cannot be expanded to include them. The Aerodynamics Department cannot be an expensive affair, since the whole vote for the N.P.L. is only £213,269. This comes out of the vote for Scientific and Industrial Research. It need hardly be said to readers of *FLIGHT* that the work which has been carried on at Teddington has been of a most useful character, and has in many instances been invaluable to the Advisory Committee for Aeronautics and to the aviation industry.

Is Air Research Work to Stop?

If the threatened closing down of the Department should come to pass it would constitute a scandal of the first magnitude. The Department is all the provision made by the State for the scientific investigation of aeronautical problems. It has been thoroughly equipped with plant and apparatus for its special work, and many have been the problems which owe their solution to the able staff of the Laboratory. Even if it cost the whole of the vote to which we have referred, it would still, in view of the future importance of aviation, be cheap to the country. But it only costs a proportion of the comparatively meagre sum of much less than a quarter of a million annually—a mere nothing when the importance of its work is taken into consideration. In view of the very definite nature of the statement upon which we have based this protest, the matter of this Treasury juggling with transfers from one set of estimates to another must be thoroughly gone into. It is a matter of no concern to the country whether the Department is paid for by the Civil Service Vote or by the Air Ministry, but it is one of the gravest moment that its work should suffer no interruption.

DIARY OF FORTHCOMING EVENTS

Club Secretaries and others desirous of announcing the dates of important fixtures are invited to send particulars for inclusion in the following list:

Oct. 22-30	Aero Exhibition, Prague
Nov. 3	Pulitzer Trophy Race.
Nov. 3	Lecture, "Manœuvres of Getting Off and Landing," by Sq.-Ldr. R. M. Hill, before R.Ae.S.
Nov. 12-27	Paris Aero Salon
Nov. 15-26	International Air Navigation Congress (Paris)
Nov. 17	Lecture, "Requirements and Difficulties of Air Transport," by Col. F. Searle, before R.Ae.S.
Dec. 1	Lecture, "Design of a Commercial Aeroplane," by Capt. G. de Havilland, before R.Ae.S.
Dec. 15	Lecture, "Development of the Fighting Aeroplane," by Capt. F. M. Green, before R.Ae.S.
1922.	
Jan. 5	Lecture, "Specialised Aircraft," by Wing-Com. W. D. Beatty, before R.Ae.S.
Jan. 19	Lecture, "Aeroplane Installation," by Brig.-Gen. R. K. Bagnall-Wild, before R.Ae.S.
Feb. 2	Lecture, "Radiological Research," by Dr. V. E. Pullin, before R.Ae.S.

Wireless Telephony in Fog

A striking demonstration of the value of wireless telephony to aircraft navigating in fog was given the other day at Croydon. The inward air mail from Paris was nearly due when there was a sudden change of wind from west to north-east, and a dense fog set in. Although the fog rapidly became worse, the pilot made a true course from Lympe to Croydon, and as soon as the machine was heard approaching the air port wireless telephone communication with the pilot was established and the ground staff were able to assist him in locating the aerodrome. Ultimately, a perfect landing was made, and the passengers were apparently unaware that there had even been a suggestion of difficulty in finding the landing ground.

This incident seems to point the moral that every machine intended for passenger-carrying should be equipped with wireless telephony. It seems to be reasonably certain that if this machine had not been so equipped, the pilot would, in the exceedingly thick weather which prevailed, have been compelled to make a forced landing with, it may be, untoward consequences. For their own sakes, the aerial transport companies should see to this. The value of directional wireless was well established during the War, and there is no reason to think that it will be any less essential in peace flying. As a matter of fact, it will have to become a part of the equipment of every mail and passenger aircraft, and much as we dislike a multiplication of regulations we are of opinion that the sooner it is made compulsory the better. Air navigation must be made safe at all costs, and any practical aid to safety should be adopted sooner rather than later.

Civil Aviation in France

We trust that our readers are not getting tired of our repeated references to the wonderful progress made by civil aviation in France. But there seems to be no escape from the subject, since almost every week brings fresh news of progress and of the extension of old routes and the opening up of new. The Air Minister, M. Eynac, has just given some further very interesting figures relating to recent developments. At the beginning of this month France had six international air routes in operation: Paris-London, Paris-Brussels-Amsterdam, Paris-Strasbourg-Prague-Warsaw, Toulouse-Casablanca, Bayonne-Bilbao-Santander, and Bordeaux-Toulouse-Montpelier. These represent 3,229 miles of distance regularly covered. For the first six months of the present year the number of voyages represented over 527,000 miles; 3,388 paying passengers were carried; parcels conveyed weighed 70 tons, apart from 3½ tons of letters and other articles sent by air post.

Next year it is proposed to create air connections between France and her colonial possessions. Communication between Corsica and Tunis is to be attempted by a seaplane service, and from Marseilles or Toulon to Algiers by airship. Aeroplane connections are to be established between Oran and Morocco, and between Toulouse and Morocco by way of Spain. All this indicates that France has a settled policy for the development of civil aviation and intends to pursue it to its logical conclusion—which is to secure to her complete domination of the air. This she will undoubtedly obtain, unless we awake from our present settled state of apathy and move apace. Of that we see, unfortunately, very little hope indeed. As a

State we have no settled air policy at all, unless it is to kill all initiative and enterprise. Private effort alone cannot even attempt to rival what is being done on the other side of the Channel, where they have a Government which sees clearly into the future and realises all that dominion of the air means to a Great Power. We are being left hopelessly behind, and unless something is done to settle a real policy it will presently be too late.

General Brancker on the Position

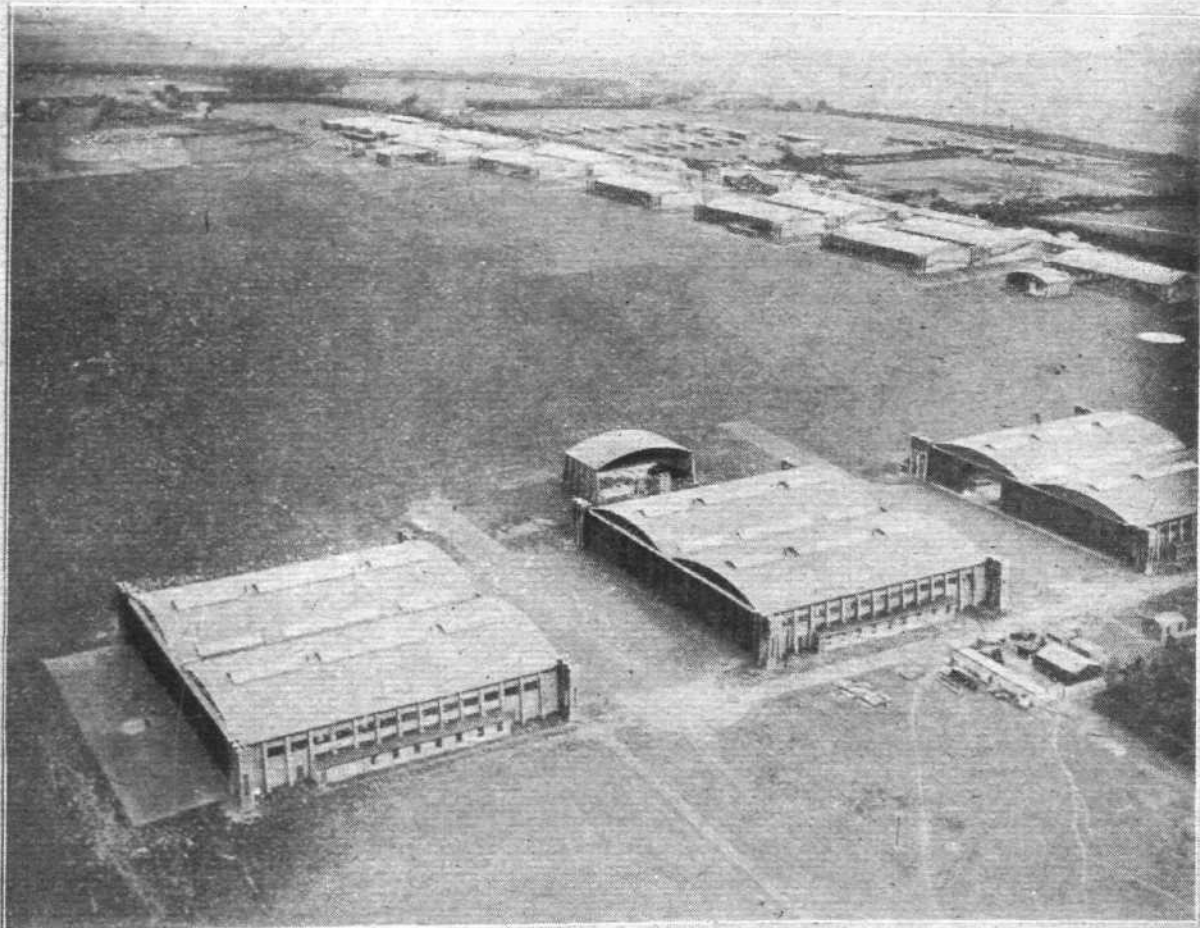
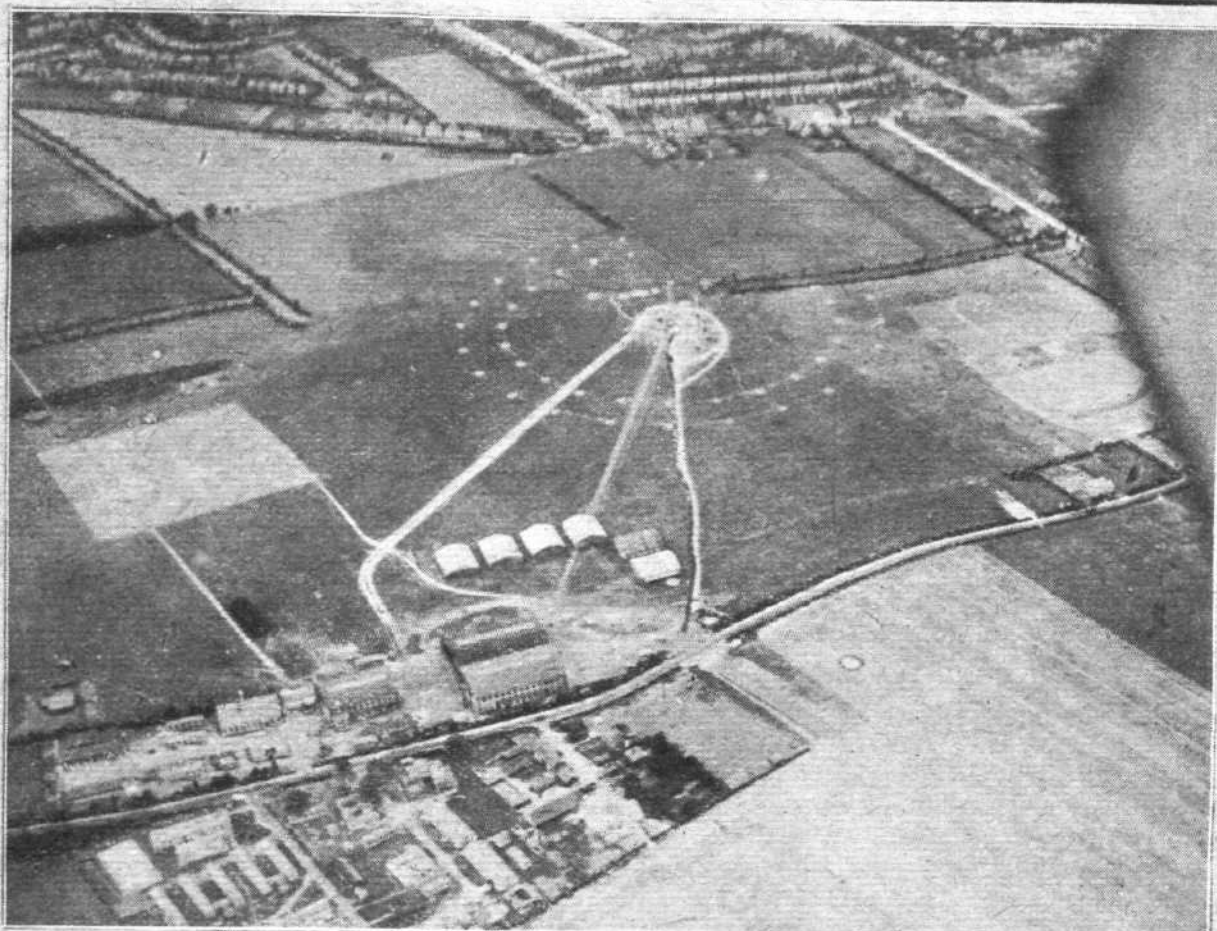
Apropos this question of relative development abroad and in this country, it is not uninteresting to turn to a report of a lecture given by Gen. Brancker before the North-east Coast Institution of Engineers and Shipbuilders. Speaking of the civil side of aviation, he said that experience has definitely proved that air transport services can be made reliable, and, secondly, that they cannot be made to pay with existing aircraft, but that with the new types which could be brought into existence during the next few years there is no doubt whatever that this new industry *can* be made to pay. These facts have been vigorously represented to Government ever since the first experimental services were begun in 1919. Three general proposals have been submitted to the Government regarding the assistance that should be given to civil aviation. These are: (1) The guarantee by the State of interest to a large national air transport company, to which would be granted a monopoly of all British routes for a term of years; (2) A mileage subsidy to all British aircraft with a British crew, no matter where flown; and (3) A guaranteed load of mails to selected services at liberal rates.

The Government have refused to adopt any of these proposals. They have assembled from time to time various committees to consider the questions, and have either neglected to take action on the recommendations of these committees, or have taken action when it was too late for the particular recommendation concerned to be of real value. A large amount of money, organisation, goodwill and experience, which was in existence in 1920 has consequently been irretrievably lost. British aerial transport today, from leading the world in 1919, has dropped behind both France and Germany, and threatens to be completely beaten in the race on account of the liberal assistance given by France to her companies and of the enterprise of German financiers. There is nothing growing up to fill the requirements of this country in a great national emergency.

This is a sufficiently grave indictment of the want of policy displayed by the Government towards aviation, both military and civil. We are deliberately being left defenceless against possible aggression from the air. As Gen. Brancker points out, it is impossible to avoid considering the possibility of another war, even in a few years time—and we are doing nothing to meet such a contingency.

What of the Air Ministry?

Gen. Brancker believes that the best policy we can adopt is to break down vested interests and to place one central control over Army, Navy and Air, ensuring that the money available for the defence of the country is allotted to the three arms in the proportion of their value in future warfare. He plumps for a Ministry of Defence and a real



Copyright, Handley Page, Ltd.
LONDON-PARIS FROM THE AIR, AS SEEN FROM A HANDLEY PAGE MACHINE :
No. 12.—*At Top : Croydon Aerodrome. Below : Lympne Aerodrome.*

Imperial General Staff to control all three Services, and thinks that the Government should give some measure of direct financial assistance to aerial transport to tide it over its initial troubles and give us a reserve in aerial resources which will simultaneously form perhaps the strongest link of the future between our Overseas Dominions and ourselves.

As to the Ministry of Defence, we have a perfectly open mind as regards that, the more so as it is a question more to be debated by experts than by the layman. But when Gen. Brancker speaks of the three Services, is he so certain that there will much longer be three in actual being? From time to time we have heard some very disquieting reports regarding the intentions of the Cabinet towards the Air Ministry and the aerial arm. It has been said that the intention is to abolish both the Ministry and the Air Force as a separate Service, and to give back the control of military aviation to the Admiralty and the War Office, the civil side going to the Ministry of Transport or the Board of Trade. How much truth there is in these reports we have no actual means of knowing, but it is a fact that the contingency is being very seriously discussed in circles which certainly ought to be well informed, even if they are not. We should certainly like to know how much—or, alternatively, how little—there is in these categorical statements.

**Air
Mail
Facilities**

While the Post Office is not as alert to see the advantages of aerial transmission of mails as we could wish, there is no doubt the authorities are awakening somewhat to a sense of proportion. It is now announced that considerable extension has been made of the facilities for the late posting of parcels in London for conveyance by air to Paris. The parcels will be despatched on the same day as they are handed in to the Post Office, and will be delivered to the addressees in Paris on the same day or the following

morning. The Postmaster-General points out that under the ordinary arrangements for the transmission of parcels by mail train and boat, several days have usually elapsed between the posting of a package in London and its delivery in Paris, but that such delay is avoided by the use of the air mail service.

Realising that fact, we are compelled to wonder why the Post Office has been, and still is, so slow to give the public the wonderful facilities of aerial transmission which lie ready to its hand. One would have thought that a progressive Department would have made haste to adopt a method of transport which, in its own words, effects a saving of several days in the time occupied for the conveyance of parcels to a place so relatively near as Paris is to London. But the ways of Government Departments are past finding out.

However, it is good to know that the Post Office is really making a move. We shall, however, be much more pleased when it takes heart of grace and adopts aerial transport for all first-class mail matter for the Continent and very largely extends the parcels mail service. The trouble is that the Post Office even now does not appear to take air transport at all seriously. That is evident from the fact that we are among the countries with established air services who are still without an aerial postage stamp, although the Post Office has been repeatedly urged to make an issue of such stamps. They ought to be issued, especially as the cost is initially small, and would be far more than recouped by the greater volume of business which would result. We believe that more business would come to the air mail, because the issue of a special set of stamps would cause a great deal of comment, and the mere fact that they were a part of the standard issues of the Post Office would be a tremendous advertisement for air mail transport. Once again we ask: When is the Postmaster-General going to make an announcement?

THE LONDON-CONTINENTAL SERVICES
FLIGHTS BETWEEN OCTOBER 16 AND OCTOBER 22, INCLUSIVE

Route†	No. of flights*	No. of passengers	No. of flights carrying		No. of journeys completed†	Average flying time	Fastest time made by	Type and (in brackets) Number of each type flying
			Mails	Goods				
Croydon-Paris ...	25	111	9	21	22	3 2	H.P. G-EAPJ (2h. 5m.) ...	B. (2), D.H.18 (2), G. (4) H.P. (3), Sp. (4), V. (1).
Paris-Croydon ...	27	104	10	25	22	2 51	D.H.4 G-EAWH (2h. 5m.)...	B. (2), D.H.4 (1), D.H.18 (1), G. (4), H.P. (4), Sp. (6), V. (1).
Croydon-Amsterdam ...	6	4	6	6	6	3 10	Fokker H-NABT (2h. 54m.)	F. (5).
Amsterdam-Croydon ...	6	9	6	5	5	4 10	Fokker H-NABL (3h. 44m.)	F. (5).
Totals for week ...	64	228	31	57	55			

* Not including "private" flights.

† Including certain journeys when stops were made *en route*.

‡ Including certain diverted journeys.

Av. = Avro. B. = Breguet. Br. = Bristol. Bt. = B.A.T. D.H.4 = De Havilland 4, D.H.9 (etc.).
 F. = Fokker. Fa. = Farman F.50. G. = Goliath Farman. H.P. = Handley Page. M. = Martinsyde. N. = Nieuport.
 P. = Potez. R. = Rumpler. Sa. = Salmson. Se. = S.E. 5. Sp. = Spad. V. = Vickers Vimy. W. = Westland.

The following is a list of firms running services between London and Paris, Brussels, etc., etc.:—Co. des Grandes Expresses Aériennes; Handley Page Transport, Ltd.; Instone Air Line; Koninklijke Luchtvaart Maatschappij; Messageries Aériennes; Syndicat National pour l'Étude des Transports Aériens; Co. Transaérienne.

Paris-Bucharest in 14 hours

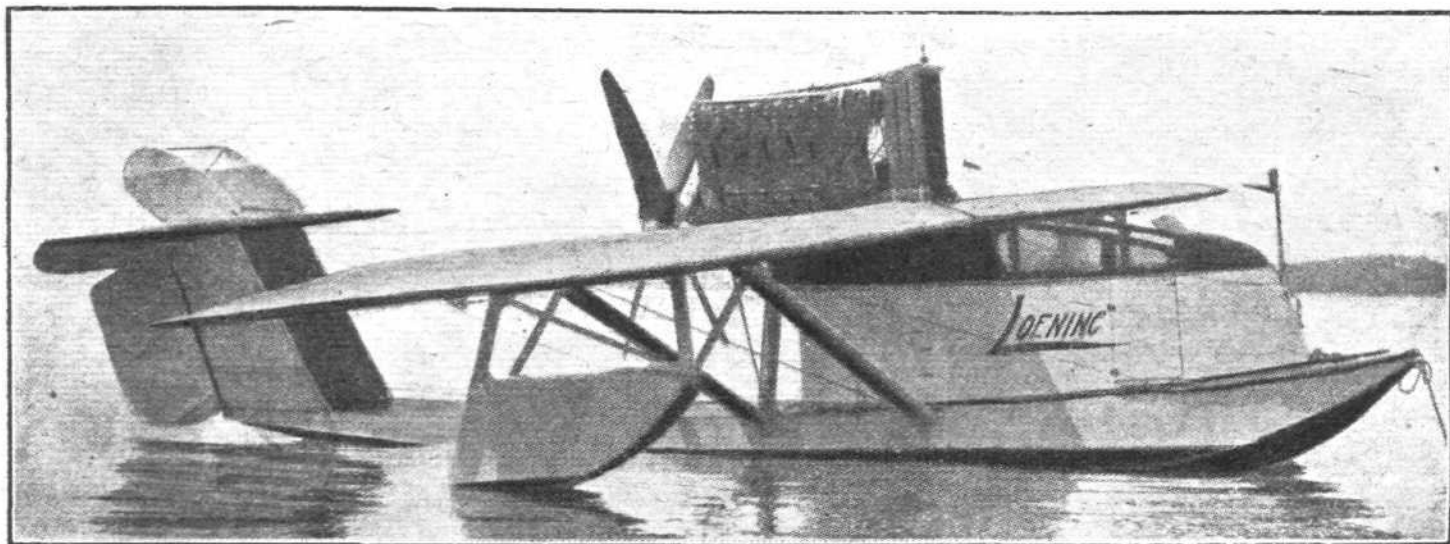
For some time it has been the intention of the Franco-Roumanian Aviation Co., who operate the Paris-Strasbourg-Prague-Warsaw air line, to extend their line to Bucharest.

On October 22 the first direct flight was made, and occupied 14 hours, including the stops at Strasburg, Prague, and Budapest. By train the journey occupies about 63 hours, so that the saving effected is very considerable.

THE LOENING MODEL 23 FLYING BOAT

A MORE or less original type of flying boat has just been turned out by the Loening Aeronautical Engineering Corp., of New York, U.S.A., to the designs of Grover C. Loening. During an altitude test on August 16 last, at Port Washington, this machine put up what is claimed to be a record, for seaplanes carrying three passengers, by attaining an altitude of 19,500 ft. The "Flying Yacht," as it is called, was piloted on this occasion by David McCulloch, and the passengers carried were Grover C. Loening, L. R. Grumman, and L. d'Orcy, the latter acting as observer for the Contest Committee of the Aero Club of America.

flotation system comprises a completely sealed unit, or pontoon. This arrangement effectually prevents the flotation system from losing a portion of its buoyancy through the shipping of water when the machine is taxiing, while on the other hand the cockpit is raised sufficiently high over the pontoon to give the crew ample protection against spray. Another advantage with this type of construction is that, given the same displacement required to float a machine, the sealed hull can be made much stronger, or lighter, than could be achieved in a hull affording accommodation to the crew, because with the latter type the hull structure must have a

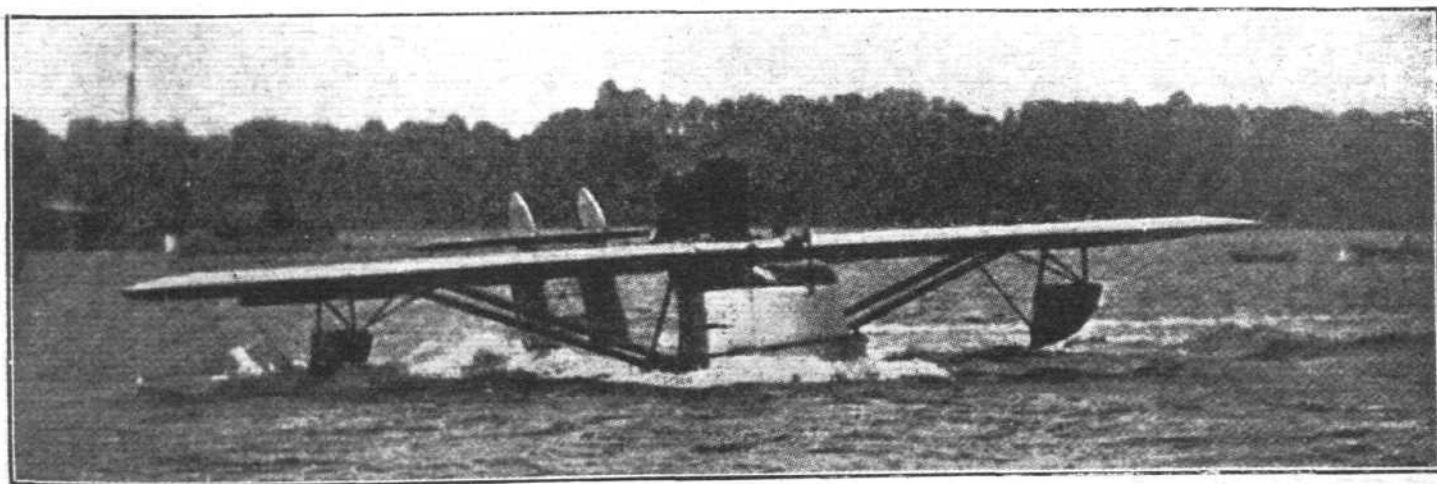


THE LOENING MODEL 23 FLYING BOAT: Three-quarter front view.

As the machine got away it was noticed that she rode the sea easily, there being no porpoising whatever, and also that the raised cockpit effectually protected the crew against the spray created as the boat gathered speed. The take off occurred after a short run, and circling once round the bay, the pilot started climbing in wide curves. At 6,000 ft. the air became somewhat bumpy, and it was gratifying to note how promptly the machine answered the controls. Within the next thousand feet the air became calmer, and at 14,000 ft. the temperature dropped considerably, it being necessary to cover up portions

much larger volume. Thus the Loening Model 23 may be said to be a compromise between the boat and float type of seaplane, for it incorporates the low resistance of flying boats, due to the absence of parasite structures between wings and floats, while on the other hand it retains the main advantages of the float type, viz.: it is practically unsinkable.

The hull is of very sturdy construction, the bottom planking consisting of two-ply spruce, with fabric laid in marine glue between, and one outer layer of $\frac{1}{4}$ -inch ash. The total thickness of the bottom throughout its length is $\frac{1}{2}$ inch. The sides and



THE LOENING MODEL 23 FLYING BOAT: The machine taxiing on the water.

of the radiator with strips of rubber, as a shutter arrangement was not fitted. The peak of the climb, 19,500 ft., was reached in 48 mins., the air speed during the climb being about 85 m.p.h.

As may be seen from the accompanying general arrangement drawings—for which we are indebted to our American contemporary *Aviation*—the Loening Model 23 is a monoplane pusher flying boat. It is of the long hull type, as distinct from the short hull or bat boat type, but it differs from the accepted idea of flying boat hulls in one fundamental point. The

top are of $\frac{1}{4}$ -inch mahogany veneer, and the framework is of spruce. It is internally braced by a triple truss with cross wires, which in itself will take the tail load without the assistance of the planking. The hull has a 21° V bottom throughout its entire length, and is fitted with a single step. All the planking is bolted together to do away with the risk of screws or rivets pulling out under the strain.

It will be seen in the plan view that the hull is of practically the same width from the cockpit aft, an arrangement which was adopted with the particular view to overcoming por-

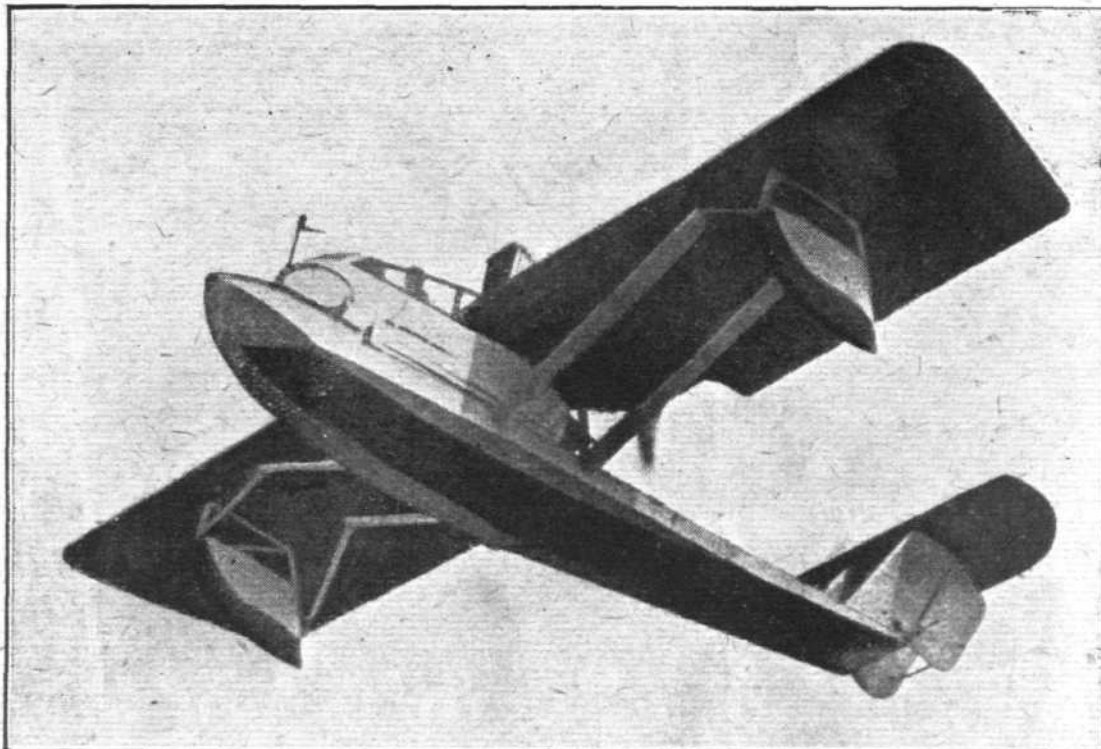
poising, and this has been borne out in practice. The hull is subdivided into 16 water-tight compartments, each being provided with its individual hand hole and ventilating tubes. Incidentally, for the altitude test a $\frac{1}{8}$ -inch hole was made in each hand-hole cover in order to prevent the hull "blowing up" owing to the difference in atmospheric pressure at high altitudes.

The pilot's and passengers' cockpit is built up above the deck on the fore part of the hull, and has accommodation for

blending into the rear portion of the cockpit. The engine and radiator are very accessible from the cockpit, the mechanic using his seat as a stand.

The sides of the cockpit consist of a $\frac{1}{4}$ -inch veneer framework, with aluminium covering, which is bolted on to the hull. Two separate wind-shields are provided for the pilot and the passenger sitting beside him. On the nose of the cockpit a small staff carries a metal pennant which answers the purpose of a side-slip indicator—based on the famous and ancient

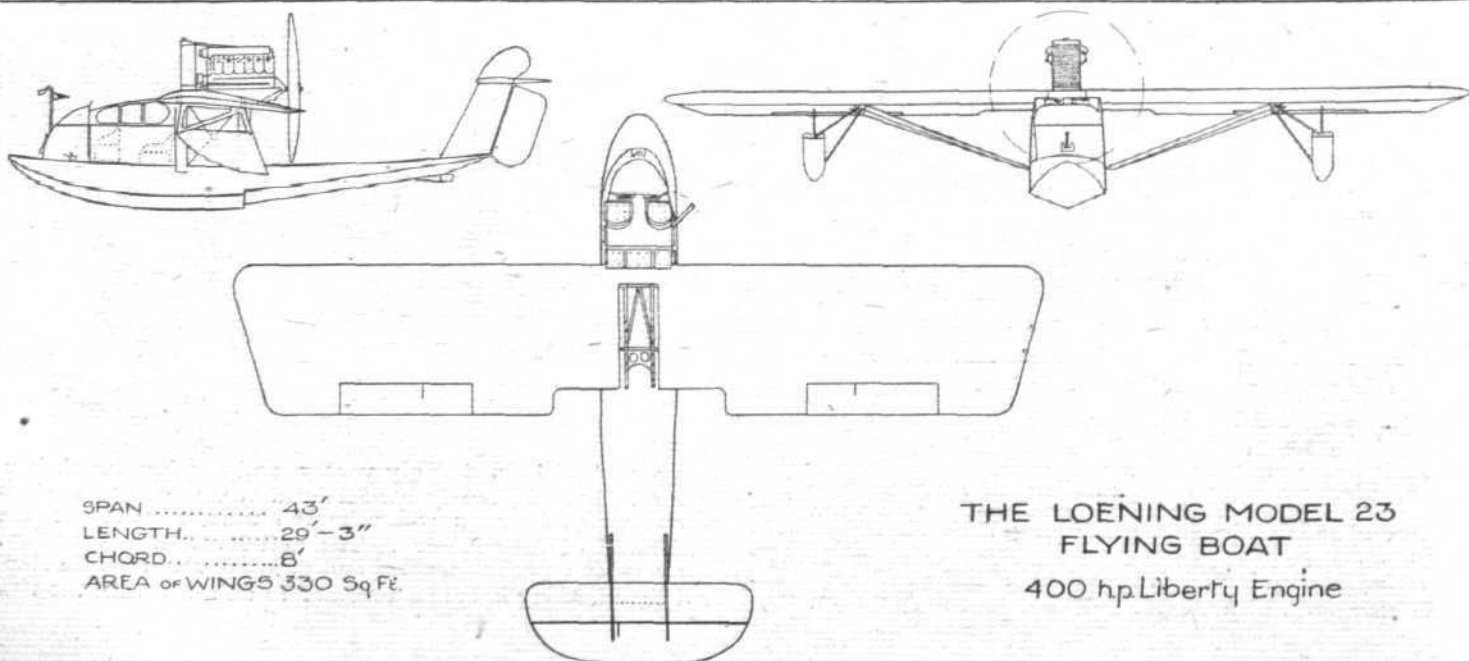
The Loening Model 23 Flying Boat: View of the boat in flight, seen from below.



five persons—two, including the pilot, sitting forward on separate seats, while three are seated aft. Ample leg-room is provided for, and there is a general air of roominess about the cockpit which should appeal to the owner pilot. Access is obtained through a door in the starboard side of the cockpit, which opens on to a running board extending round the front of the cockpit and sufficiently wide to enable the crew easily to walk along it. The 400 h.p. Liberty engine—which is fitted with a 4-bladed Hartzell propeller—rests on two ash bearers supported on two M struts built integral with the hull. The space between the arms of the M is utilised for housing the petrol and oil tanks, which are under pressure. The whole structure is carefully streamlined, the cowling

"string" employed on the early Wright machines. The pilot tube for the speed indicator is also mounted on this staff. A 57-lb. anchor is carried on the bow for mooring the boat when no buoys are available.

For the wings, which have no dihedral or sweepback, the standard structure adopted by the Loening Co. for their new Model 21 fighting monoplane is employed. The wing floats are supported by vertical three-ply struts built integral with the structure, and are braced by additional struts against side strains. The weight of the wing structure complete is 290 lbs. The tail unit consists of two parallel vertical fins mounted on the outer corners of the hull. These fins carry a one-piece horizontal stabiliser, on top of which are two



THE LOENING MODEL 23 FLYING BOAT: General arrangement drawings.

smaller vertical fins, and a single unbalanced elevator hinged to the trailing edge of the stabiliser. Two unbalanced rudders are hinged to the vertical fins. The stabiliser incidence can be varied by means of a hand wheel in the cockpit.

It is of interest to note that the Model 23 "Yacht" represents the culmination of the efforts made by Grover C. Loening during the past ten years with a view to producing a seaplane that would be both airworthy and seaworthy. His earliest machine, of 1911, was, in fact, very similar in general outline to the Model 23 described above.

The following are the principal characteristics of the "Yacht":—

Span	43 ft.
Chord	8 ft.
Overall length	29 ft. 3 ins.



Mesopotamia Air Force

It is now officially announced that from February 1, 1922, the Irak (Mesopotamia) Group of the Royal Air Force, which is at present part of the Middle East Area, will be separated from that area, and will become an independent command. The Officer Commanding Irak Group will be directly responsible to the Air Ministry for the command and administration of the Air Force units located in that country.

Austria's War Material

OFFICIAL figures just issued in Vienna of war material destroyed or delivered up by Austria up to October 1 under the terms of the Armistice and Treaty of Peace, include 1,333 flying apparatus, 3,289 aeroplane motors, 15,000 magnetos and instruments, and 2,500 aeroplane machine guns.

British Empire Delegation to Washington

THE full list of those attending the Conference on the Limitation of Armaments is now officially issued by the Foreign Office. In the Air Ministry Section, besides Air Vice-Marshal J. F. A. Higgins, are Group-Capt. J. A. Chamier, Flt.-Lt. A. R. Arnold, Flt.-Lt. R. Gambier-Parry, and Mr. W. E. Taylor.

France to have an Aircraft Museum

To replace the temporary resting-places of the historical collection of objects relating to air navigation which have hitherto been deemed adequate in France for the purpose, a new "museum" is to be formally inaugurated on November 23 at Chalais Meudon. "La France" hangar is to be utilised to this end, and the public will then have an opportunity of conveniently studying the many interesting "relics," etc., which have been collected relating to the past history of aviation.

Poirée fails to beat Martinetti

As soon as it became known that the Italian aviator Martinetti had improved upon Poirée's time in the fight for the Coupe Michelin, Poirée set out to see if he could beat his own previous performance and also that of Martinetti. Altogether he made three attempts, none of which was successful, chiefly on account of bad weather conditions, but although he has failed to beat Martinetti's performance of 3,000 kilometres in 35 hours, he has put up the very fine performance of covering 7,000 kilometres in one week.

Height	8 ft.
Angle of incidence	4½°
Area of wings (including ailerons and struts)	330 sq. ft.
Area of ailerons	22 sq. ft.
Area of tail plane	23.5 sq. ft.
Area of elevator	19 sq. ft.
Area of fins	24 sq. ft.
Area of rudders	16.5 sq. ft.
Weight empty	2,200 lbs.
Weight fully loaded	3,550 lbs.
Weight (sq. ft.)	10.7 lbs.
Weight (h.p.)	8.5 lbs.
Factor of safety	8.9
Maximum speed	125 m.p.h.
Cruising speed	110 m.p.h.
Climb in 10 minutes	9,500 ft.



Gliding Competition in France

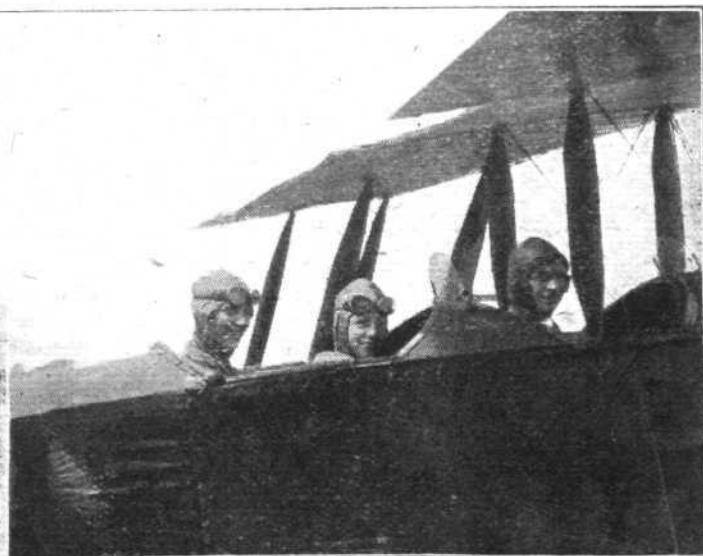
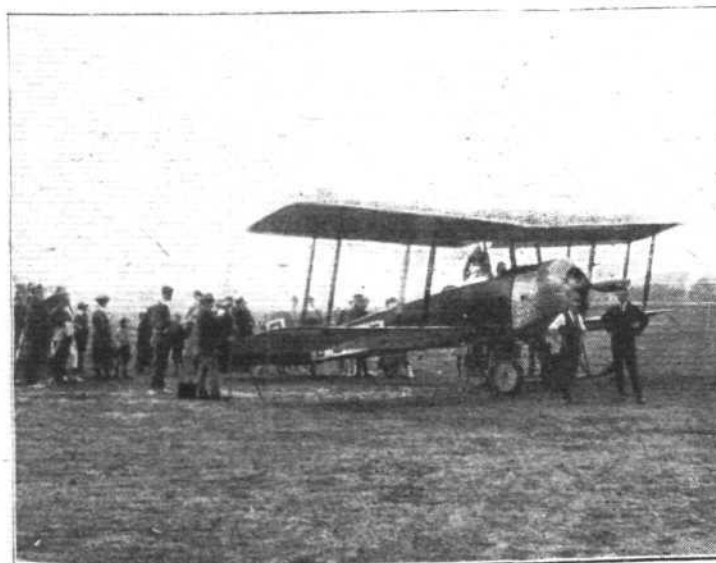
ENCOURAGED by the success attained during the German gliding competition in the Rhon hills this year, France has resolved to hold, next year, a somewhat similar competition. At present it is proposed to hold the competition from July 6 to 20, 1922. The competition is to be organised by the French Aerial Association, but before settling the rules and regulations it is proposed to call a "Congress" at the Grand Palais to discuss the possibilities of such a competition. The congress is to take place on November 26 and 27 in one of the lecture halls of the Grand Palais, and the only condition imposed for admission to this congress is that a communication should be made to the *Congres d'Aviation sans Moteur*, addressed to the General Secretary, M. Georges Houard, 17, Boulevard des Batignolles, Paris (8^e). The communications should bear on the following subjects: Theory or application of gliding flight; method of making the experiments; information relating to the Rhon experiments; rules and regulations of the French competition in 1922, or suggestions concerning the competition, such as suitable place for holding it, rules and regulations, etc. Communications should not exceed 1,200 words, and those accepted will be published in our French contemporary *Les Ailes*.

New Italian Airship

FROM Rome it is reported that Italy proposes to build another semi-rigid airship, the "Napoli," on somewhat similar lines to those of the "Roma," which was sold to America recently, but of rather greater length. The ship is stated to be designed for 100 passengers.

The Emperor Karl Fiasco

By way of a "first," the aerial venture of ex-Emperor Karl as a jump-off for regaining his throne has to be recorded. As a tribute to the aeroplane it was as successful as could well be desired. As a throne-capturing effort, it would appear to have been a ghastly fiasco. Karl left Duebendorf in Switzerland at noon on October 20 in C.H. 59, a Junker 'plane, piloted by Zimmermann, a German, and arrived at Oedenburg in Buengenland, on October 21, at 1.30 p.m., where he was joined by his Royalist army. From there his advance and methods until "captured," on October 24, were of more orthodox and prosaic methods.



JOY-RIDING AT GREAT YARMOUTH: Messrs. Summerfield, Bolland and Neale doing a good business; "flippers" waiting their turn in queues. On the right a couple of lady-patrons with joy-anticipatory smiles.

LONDON TERMINAL AERODROME

Monday Evening, October 24

AFTER many vicissitudes, the Handley Page W. 8 left on her maiden passenger-carrying trip to Paris on Friday, and landed at Le Bourget in 2 hours 5 minutes, having had what wind there was behind her most of the way. Mr. Perry, who is piloting this machine, is very pleased with it, and the return journey was accomplished successfully on Saturday. The many different delays and difficulties which Handley Page Transport have encountered in getting the machine on the service have earned for the W. 8 the title of the "Aerial Jonah." Now, however, it certainly seems to have risen superior to its troubles, and is running "O.K." Mr. Hall, for one, is quite proud of the smooth operation of its two Napier "Lion" engines.

Mr. Macintosh made a very fine effort on Thursday, when he brought an H.P. 0-400 with eight passengers on board through to Croydon in spite of a very thick mist. Rockets and star-shells were fired, and even these were invisible to those on the ground a few hundred yards away. Mr. Macintosh circled round for about 20 minutes, and, though the droning of his engines could be distinctly heard, the machine itself was invisible behind the mist. Eventually, however, the pilot found a rift, and landed safely on the aerodrome. No other machine arrived at Croydon that day, though two got away before the mist developed.

The mist was quite local. At Lympne, for instance, the visibility was 20 miles, and the machines from the Continent landed there and at Penshurst.

An aerodrome change is the provision of a special office for the examination of aliens entering or leaving the country by air. The aeroplane crate in which Mr. Sidney Cotton brought his ill-fated Airco 14 from Naples—after his unsuccessful attempt to reach Cairo in the flight through Africa—is to be used for this purpose. It has, for a long time past, been outside the Customs House, the idea being to use it as a passengers' waiting-room. But this idea was never carried out, and now a doorway between this hut and the Customs House is being provided. British passengers will go straight through the Customs, but all aliens will have to pass through the new "Aliens Office" in addition to going through Customs. This new department will be worked by the C.A.T.O.

Mr. Barnard is back at work again, and assures me that he is feeling fairly fit.

Mr. Shaw is now flying the wireless experimental D.H.6 for the Marconi Company, and, at intervals, is ferrying D.H.4's to Brussels for the Aircraft Disposal Company. Captain Muir has been demonstrating an F.4 at Brussels for the benefit of various foreign delegations—and, it is hoped, to the ultimate advantage of the Aircraft Disposal Company.

"Airway" Pilot's 250,000 Miles of Flying

MR. OLLEY is leaving the K.L.M. at the end of the month. Since joining this company, six months ago, he has spent 450 hours in the air and crossed the Channel 150 times. Incidentally, he has recently completed 3,000 hours of flying, which means a distance of about 250,000 miles. Previous to joining the K.L.M. Mr. Olley was with Handley Page Transport, piloting 0-400's.

Antibes to Ajaccio in 3 hrs. 10 mins.

FRANCE is gradually turning the port of Antibes into an important air station, and it is hoped to establish air lines running to Corsica, Sardinia and Tunis, using Antibes as the French terminus. On October 18 a seaplane flew from Antibes to Corsica (Ajaccio) in 3 hours 10 minutes, which is a very great saving of time as compared with the time taken by steamer.

America Buys Fokkers

FROM New York it is reported that the United States Army Air Service has purchased two twelve-passenger Fokker monoplanes. The machines have Liberty engines, and the total capacity is twelve people, so that it is scarcely correct to call them twelve-passenger machines, the actual number of passengers for which there is accommodation being ten. The two machines are said to have been shipped already, and are stated to be intended for McCook Field, Dayton, Ohio. One of this type, which is presumably the F-4, is reported to have made a non-stop flight of 600 miles, although it is not stated what load, if any, was carried.

Dropping a 4,300 lb. Bomb

THE Americans are continuing their bombing tests with large bombs. Recently, it is reported from Baltimore, a Handley Page machine was used in dropping a bomb weighing

In order to fill Mr. Olley's place a Dutch pilot, Mr. Geysendorff, who has been flying for the K.L.M. on the Amsterdam-Hamburg route during the summer, is now getting used to the London-Amsterdam "airway," and landed at the aerodrome for the second time today.

The Grands Express are making quite a habit of dispatching a "Goliath" on Sundays, and one left for Paris at 12.20 p.m. yesterday.

More Bristols have been departing "Spainwards" during the week.

A Very Interesting Plan

I HEAR that Mr. Frank Searle intends to overcome the shed shortage to some extent by using the engine repair-shops of the Daimler Hire Company at Knightsbridge for repairs and overhauls to the engines of his new air-line. This will save duplication of engine repair-staffs, and, as there is a fully-equipped machine shop in the overhaul department of the Daimler Hire, much better facilities will be at the command of the engineers than would be possible at the aerodrome without an excessive outlay of capital. It would appear that this combining of the work of the Daimler car service and air service is to be the policy of Mr. Searle, and there is little doubt but that the air-line will benefit enormously by the splendid organisation of the parent company.

There is now a perfect battery of petrol pumps in the Customs' enclosure. The new Anglo-American pump is in position and working, while alterations are being made to the old one. Shell are now regularly "delivering the goods," and Mr. Shaw is quite busy.

In the Meteorological Office the thunderstorm detector is now in full working order, and during the week the weather-staff have been using it assiduously, as thunderstorms have been expected almost hourly. The instrument seems, however, too near the aerodrome wireless station to permit of really satisfactory working, though electrical disturbances in the atmosphere can be heard quite plainly. I am told that the weather staff can, when they desire, "cut out" Eiffel Tower, which is of course a most powerful station; but the nearness of the aerodrome wireless defeats them at times.

A peculiar situation has arisen with the flying licences of the K.L.M. pilots. Most of them, as British subjects, hold British pilots' licences; but, at the same time, they have taken the precaution of obtaining Dutch licences as well. One of them found during the course of the week that he was due for a British medical examination. After he had been before the doctor he was told he should take a fortnight's holiday, and then come for examination again before his licence could be renewed. As, however, this particular pilot has a Dutch licence, and is flying for a Dutch firm, and in spite of the fact that the British doctor will not renew his British licence, they have no power to stop him flying. I am told that this position does not arise out of any slackness in the Dutch medical examination. They do all the tests as used here, and have added a few of their own. Incidentally, it must be a great ordeal for a British pilot to have to say "99" in Dutch!

4,300 lb. on a ground target at the Aberdeen proving grounds. The bomb was released from a height of about 4,000 ft., and fell within the area marked off, leaving a crater 100 ft. in diameter and 30 ft. deep. The bomb was originally intended for the bombing of the "Alabama," but owing to delay in finishing the special racks required it could not be used for its original purpose. The pilot of the machine was Captain Carolin, who has dropped all the large bombs constructed by the Ordnance Department.

The Pescara Helicopter

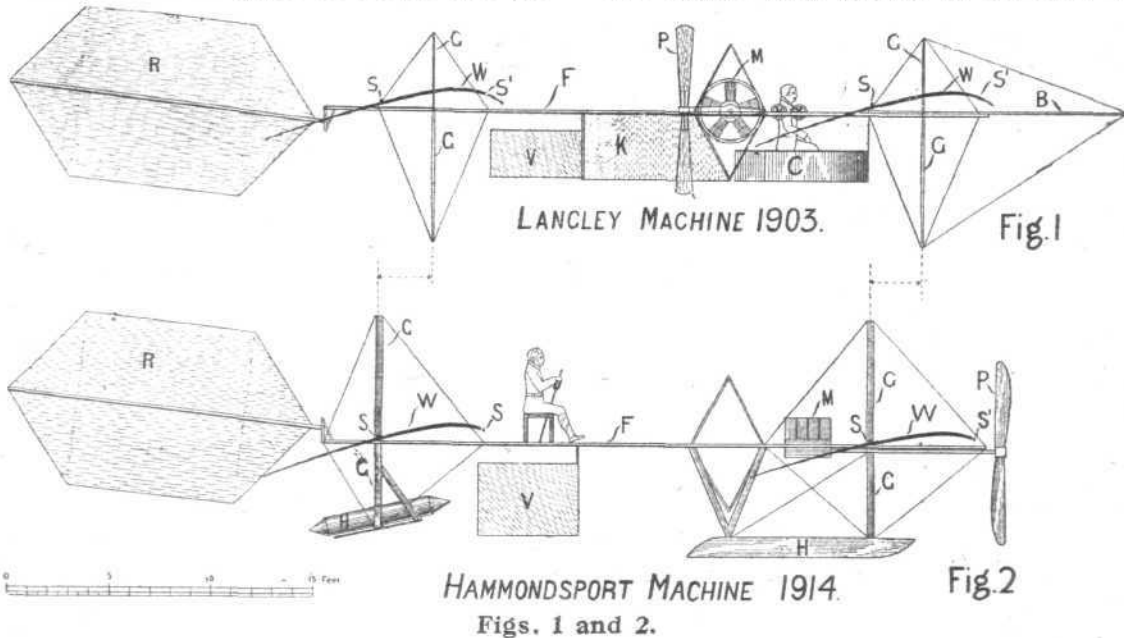
AFTER numerous trials, and after having rebuilt his transmission and other details of his helicopter, M. Pateras Pescara is now reported to be satisfied with the behaviour of the machine, and to have succeeded not only in making it rise on several occasions, but also in lifting at will one end or the other, in turning, and in descending slowly. No attempt has yet been made at high flights, nor at completing a circuit, as the garden in which the machine is being tried is too small to allow of this. We understand, however, that the machine is being dismantled, and will be exhibited at the forthcoming Paris Aero Show. After the closing of the show it is to be thoroughly tested in France, at Villacoublay, before the French Service Technique, when prolonged flights will, presumably, be attempted.

THE LANGLEY MACHINE AND THE HAMMONDSPORT TRIALS

UNDER the above title Mr. Griffith Brewer read a paper before the Royal Aeronautical Society on October 20, in which he traverses the now generally accepted claim that the Langley machine of 1903 has been flown. He maintains it never has been flown or ever could fly. Mr. Brewer's contention is that the machine was so weak structurally, and of so bad design, that it could not possibly have flown in its original state, and in his paper he alleges that the

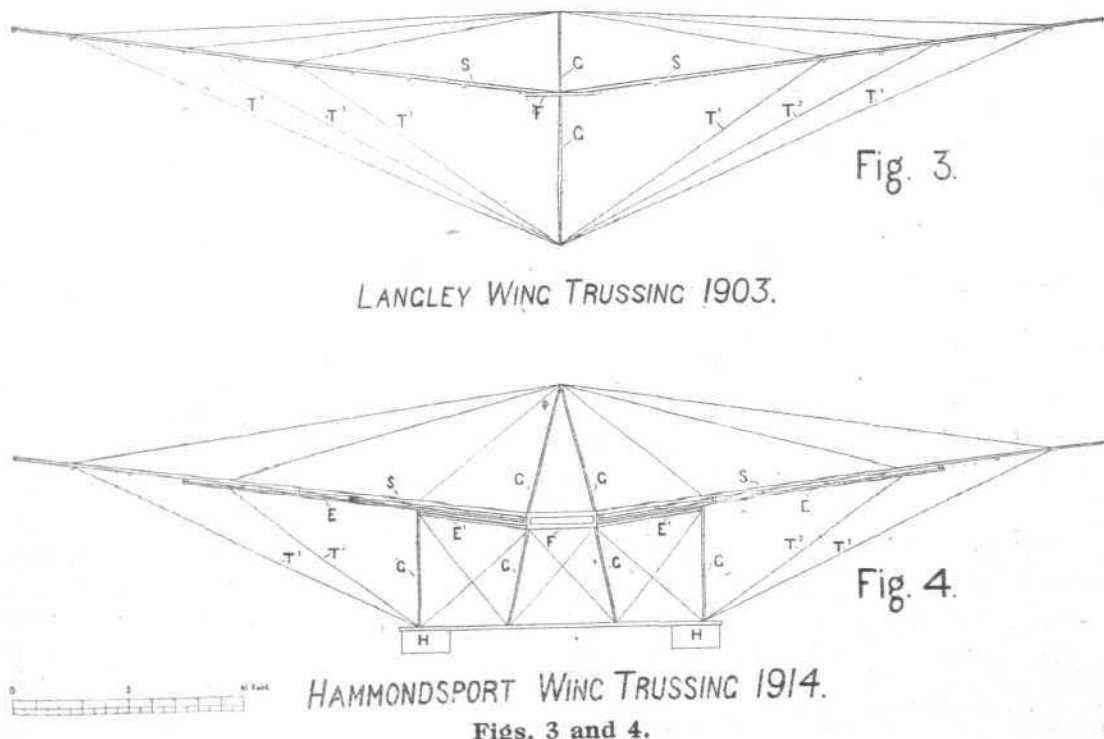
machine is due to the Wright brothers, and from the point of practical flying to nobody else. Mr. Brewer said that he had recently returned from further investigations in America, and that as a result of these he was now in a position to report to the Royal Aeronautical Society that the reports of the Hammondsport trials in 1914 are inaccurate as recorded at the Smithsonian Institution.

The lecturer then referred to the early history of the



machine was so altered for the flight tests made by Glenn Curtiss as to be virtually a different machine. We have not the space to publish Mr. Griffith Brewer's paper in full, but the following brief summary, and some of the illustrations from the paper, will serve to show the main points of the lecturer's contentions. There is little doubt that the paper will cause something of a sensation in America, where the

Wright brothers and of Langley, pointing out that they had been carrying on their investigations independently hundreds of miles apart, and had both approached the final stage of their independent experiments at the same time. Langley tested his machine a few weeks before the Wrights were ready to test theirs, and the attempts to fly the Langley machine failed. The Wrights, one week after Langley's



question "Langley or Wright Brothers," has caused much more controversy than it has on this side.

In the opening paragraphs of his paper Mr. Brewer refers to some remarks made by Lord Northcliffe during the discussion on the Wilbur Wright Memorial Lecture given by Mr. Brewer in 1916, in which Lord Northcliffe stated that he was firmly convinced that the credit of the first flying

second attempt, tested theirs and succeeded. Mr. Brewer stated that the Smithsonian Institution has always attributed the failure of the Langley machine in 1903 to a failure in the launching apparatus, and that it has hitherto been generally accepted that the machine was wrecked without having had a fair opportunity of proving whether it was capable of flight. He then proceeded to show how the

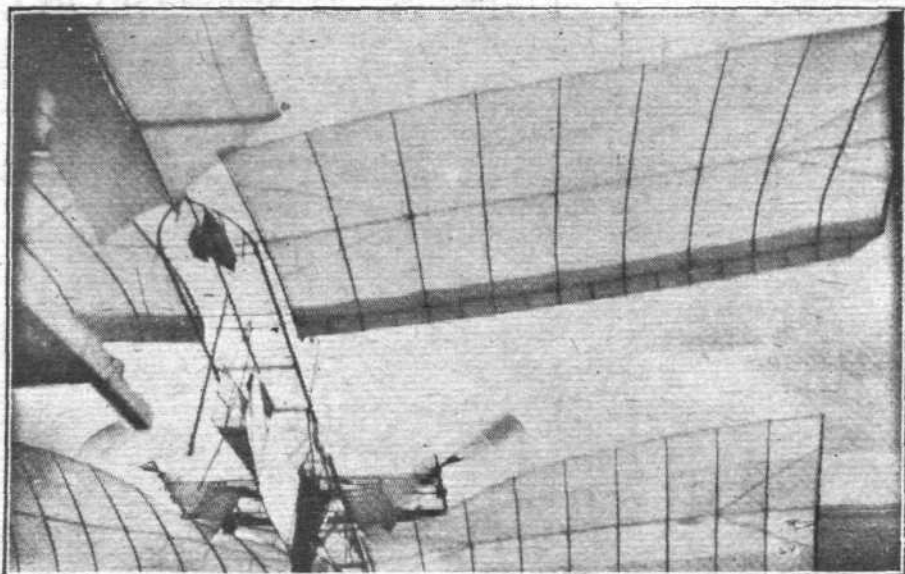


Fig. 5.—Langley machine viewed from below, front wings twisted and bent against framework.

Hammondsport machine was altered to enable it to fly, and showed slides illustrating the machine getting off the top of the houseboat, which, he claimed, showed how the wings of the original machine twisted under load. He also stated that this twisting was the probable cause of the failure of the machine to fly rather than any defect in the launching apparatus.

Figs. 1 and 2 are side elevations of the original Langley machine of 1903 and the Hammondsport machine of 1914, prepared by Mr. Brewer. In Figs. 3 and 4 the wing trussing of the same machines is indicated. The differences will be clear to readers of this journal without further comment. Mr. Brewer's claims are, in the main, that the alterations were so extensive and of such a nature that the machine could not justly be called the same as the original Langley of 1903.

The lecturer then described some of the early trials with the Langley, pointing out that during the time immediately following the tests there was no mention of any failure on the part of the launching gear. He called attention to the placing of the wing trusses and guy posts, G (Fig. 1), which were, he stated, 28 per cent. of the chord back from the leading edge. His contention is that, once the machine had left the launching apparatus, the centre of pressure would be behind the position of the king-posts, or at about 37 per cent. of the chord. As a result of this the wing would tend to twist, and by way of proof that this actually happened, Mr. Brewer showed slides of photographs taken immediately after the launch. We reproduce one of these photographs herewith, which certainly appears to substantiate Mr. Brewer's claim. The front wing is obviously twisted, its trailing edge bearing against the propeller framework. The effect of this distortion would naturally be to cause the machine to dive, and it is to this distortion that Mr. Brewer attributes the failure of the machine to fly, not to any fault in the launching apparatus. Several of the slides shown illustrated the bending back of the lower king-post G in such a manner as to indicate a very considerable twisting of the wing, such as might be caused by the c.p. being too far behind the wing trusses.

As regards the changes made in the Hammondsport machine, Mr. Brewer enumerated these very thoroughly.

We have not the space here to publish all of them, but they may be briefly summarised as follows: New wings were constructed in which the portion of the wing in front of the front spar was omitted. This reduced the camber from about 1 in 12 to about 1 in 18. It reduced the wing area and changed the aspect ratio. The top guy post was replaced by a much taller inverted V, and the lower guy post by four much heavier posts. The guy wires at Hammondsport were attached to the spars at different points from those in the Langley machine. The whole system of trussing was moved 30 inches farther back, so as to be near the normal centre of pressure of the wings. The middle spar of each wing was strengthened by an additional spar underneath the ribs and extending outwards for about two-thirds of the length of the spar. The wings were further strengthened by the under truss work, GGGG and E¹E¹ (Fig. 4), diagonally braced, rigidly supporting the wings to about a quarter of their length out from the central frame. The ribs of the Hammondsport machine were heavier and stronger than those of the Langley. Floats, unknown in the day of Langley, were substituted for the original launching gear. The large fixed keel vertical surface (K in Fig. 1) was omitted, and the small split vane steering rudder was replaced by a single rudder (V, Fig. 2) of larger area. Further, the divided rudder of the Langley was intended to steer the machine, while the rudder in the Hammondsport machine was connected up to a hand wheel or to the Curtiss yoke, which was the standard Curtiss system of lateral control at the time.

The rudder V of the Hammondsport machine was not, therefore, intended for steering but for lateral control. The tail of the Langley machine was adjustable up and down by a self-locking hand wheel, while in the Hammondsport it was coupled to a regular Curtiss steering post. The original carburettor was changed for one of modern type. The tail of the Langley was adjustable up and down only, and not about a vertical axis. In the Hammondsport machine it was connected to a regular Curtiss steering wheel.

Mr. Brewer contends that: The Langley machine was not capable of sustained flight and that the inscription on the Langley machine in the Smithsonian Institution at Washington should be changed to accord with facts.

The Aveline Stabiliser

THE inventor of the "Automatic Pilot," M. Georges Aveline, has been demonstrating his stabiliser in France. When we met him in London recently he told of experiments having been made on French machines at Villacoublay. He also referred to the possibilities of the invention being taken up by America and other countries, so that there would appear to be prospects of the stabiliser (which was described in detail in FLIGHT of February 3, 1921) coming into fairly general use during 1922. Some little time ago a demonstration was given on one of the machines belonging to the Messageries Aériennes, which flew from Paris to Brussels, Rotterdam, Amsterdam and back. On this particular occasion the lateral stabiliser only was used, but we understand that the M.A. were so pleased with the results that they have asked for a demonstration with the elevator stabiliser fitted also. Although the inventor is French, the

stabiliser is manufactured in this country only, and will be supplied from here, the manufacturers being Messrs. Auto Controls, Ltd., of 19, Regent Street, S.W.

A New Metal?

FROM Paris it is reported that two French inventors have discovered a new light metal, which, if the claims made for it are substantiated, should have a great future in the aviation industry. The new metal is stated to be lighter than Duralumin, stronger weight for weight, and much cheaper. The tests are stated to have been carried out in the laboratories of the Arts et Metiers, and to have proved that the metal does have extraordinary properties. The inventors are MM. Fontane and Geyer. We seem to have heard of similar wonderful metals before, but somehow they have a habit of not materialising. We trust the French inventors will have better luck, since such a metal would help metal construction considerably.

AIRISMS FROM THE FOUR WINDS.

AN air-raid has been the means of bringing into prominence a curious commentary upon work by a British workman of the last century. In connection with the east window of the Church of St. Katharine Cree, Leadenhall Street, which was damaged in a day air-raid in July, 1917, and which has now been restored, there are inscriptions from 1703 downwards, indicating when it was examined and cleaned. One inscription runs: "Thomas Jordan cleaned this window, and 'Damn the job,' I say, 1815."

The latest worker on the window may well have added: "Ditto to the Air Raids. 1921."

A CENTURY ago—October 1, 1821—expediting His Majesty's Mail was a prominent feature of the times, as witness the following paragraph from the *Observer* of that date:

"Mr. Burgess, whose suggestions regarding a more expeditious conveyance of the mails were embodied in the Extra Post Bill, rejected last Session, is now trying the effect of his plan; and to that effect has advertised the "London and Manchester Light Express," a new public carriage, drawn by two horses abreast, and carrying two inside passengers only, to commence running from the Castle and Falcon, Aldersgate Street, at four o'clock in the afternoon on Monday, October 1, and arrive in Manchester early the succeeding morning, leaving the whole of that day for business. The object of this undertaking, he says, is to present to the public a mode of conveyance combining greater expedition, greatly increased comfort and safety to the passengers, less risk to persons travelling the road, and less oppression to the horses than is now experienced in the most expeditious public coaches."

If precedent were required to justify our present P.M.G. going all out on Air Mail time-saving, surely it is to be found in the above 1821 "hustling."

One is reminded of an item of much interest in connection with the early days of the War, in a reference recently by Mr. C. F. Higham, M.P., when presiding at the Optimists Club Annual Dinner. When speaking of the progress of the Club and how they founded the first Volunteer Corps in London on August 17, 1914, and later the Motor Volunteer Transport, Mr. Higham recalled how the Club then took the German gymnasium, and one of their duties was to look after a statue of the Kaiser which was deposited on the roof. The first bomb that hit that part of London smashed the statue into a thousand pieces.

We have often wondered whether His All Mightiness ever

heard of this very remarkable coincidence, and, if he did, what he thought of it!

It seems a far cry back to 1843, but even at that time the "dirigible" was—metaphorically only, of course—"in the air." Opinions were then expressed with respect to aerial navigation in many ways, sometimes seriously, sometimes otherwise. This is how *Punch* treated the subject in its issue of a week prior to Christmas of that year:—

"We find that another scheme is on foot for guiding balloons through the air by means of whirligigs, every difficulty of which is overcome, except the contrivances to work them. We have been favoured with a diagram, which gives a very clear idea of the subject, and is in unison with the popular opinion upon its merits. It is called the Aerial Walker."

"The thumbs of each hand are to be applied to the *alæ*, or wings of the nostrils, as shown in the above engraving, crossing each other, the right one being external. The backs of the hands are then to form planes at a right angle with the horizon, the fingers being kept together, and pointing over the shoulders, the right over the left, and *vice versa*. By giving motion to the hands, from the nose or centre, the fingers describing the arc shown by the dotted lines, A B, a very correct notion will be obtained of the scheme."



FLYING on the U.S. Air Mail Service between Salt Lake City and San Francisco over the Rocky Mountains and Pacific Coast region, where all sorts of country and all sorts of weather—including assorted mountain storms, prairie blizzards, etc.—calls for considerable nerve and personal risk on the part of the pilot. On one occasion a pilot encountered a fog, and had to make a forced descent in the mountains, where he landed on the edge of a canyon several hundred feet deep! Washington forthwith issued an order to the managers of the flying fields to pay particular attention to the age limit of the men employed by them. On referring to the regulations it was found that no one over seventy-four years old was eligible as a pilot! Some youths, these American pilots?

OH no. The postal regulation had been transferred bodily to the Air Mail Service!



BRITISH AEROPLANES IN SPAIN: A batch of planes supplied to the Spanish Government by the Aircraft Disposal Co., Ltd., and flown over by them from Croydon to Madrid. On the left, the Queen of Spain christening an A.D.C. aeroplane presented to the Spanish nation by the Province of Salamanca. On the right, the Bishop of Madrid blessing an A.D.C. aeroplane presented to the Spanish nation by the Province of Zaragoza.



Married

Flight-Lieut. E. A. BEAULAH, R.A.F., son of the late Josiah Beaulah and of Mrs. Beaulah, of Boston, Lincs, was married on October 19, at St. Bartholomew's Church, Sydenham, to DOROTHY MAUD, elder daughter of Dr. and Mrs. A. E. WILSON, of Sydenham, S.E.

The Rev. A. S. CUTHBERT HARRISON, M.A. (Rector of Hook, Surrey, and lately Chaplain R.A.F., Dover), was married on October 18 at the Parish Church, Totnes, to FANNY E. RICHARDSON (née STEVENS), of the Manor House, Totnes.

Sqdn.-Ldr. FREDERICK SOWREY, D.S.O., M.C., A.F.C., R.A.F., second son of Mr. and Mrs. John Sowrey, Yeoveny, Staines, was married on October 18, at St. Peter's Church, Bexhill-on-Sea, to MARGARITA BEATRICE (RITA) WHITE,

daughter of the late Mr. Herbert White, of The Poplars, Maidstone, and Mrs. Herbert White, Kent Cottage, Bexhill.

To be Married

The engagement is announced between Flight-Lieut. R. S. LUCY, A.F.C., R.A.F., only son of Mr. and Mrs. A. J. Lucy, of Newbury, Upper Broadheath, near Worcester, and IONE, only daughter of Admiral R. S. D. CUMING, C.B.E., D.S.O., and Mrs. Cuming, of The Turnpike House, Knightwick, Worcestershire.

Item

The will of the late Capt. BRIAN BOWRING TOMS (Warwickshire Regt. and R.F.C.), of North Haven Point, Sandbanks, Parkstone, Dorset, and of Moretonhampstead, Devon, has been proved at £41,458.

NOTICES TO AIRMEN

Turkey : Prohibited Areas, Aerodromes

It is notified that the Inter-Allied High Commissioners for Constantinople have proclaimed certain prohibited areas for aircraft. The Notice containing these is No. 86 of 1921.

France : Romilly-sur-Seine Class "B" Wireless Station

ROMILLY-SUR-SEINE (Call Signal, AC) is added to the

Standardised Shade Khaki Clothing

THE shade of all khaki tropical clothing to be worn in future by officers of the Royal Air Force has been standardised, and will be that known as Spinner's khaki shade No. 1. This shade will be used for all khaki cotton drills, twills, cords, puggaries, helmets, etc., and also woollen puttees, but not serges or woollen clothes. Articles of other shades at present in use may be worn out.

Italy Re-names Her Aerodromes

MANY Italian aerodromes are being re-named after Italian air heroes, the consent of the Ministry of War having been obtained for this procedure.

The Baggio (Milan) airship station is to be known by the name of Remo La Valle, the second in command of the M. 12 airship, who perished when this airship was shot down from Monte Hermada by the Austrians.

The Bologna (Piazza d'Armi Caprara) aerodrome has been dedicated to the memory of Fausto Pesci.

The Capodichino (Naples) air port takes the name of Ugo Niutta.

The Ghedi aerodrome will be dedicated to the memory of Luigi Olivari.

The aerodrome of the Cascina Costa (Gallarate) School will be dedicated to the memory of Gaspare Bolla.

The name of the Taliedo aerodrome has been altered to that of Emilio Pensuti, in honour of that pioneer airman, who was killed in an attempt to land a Caproni triplane which had caught fire at a height of 3,000 metres.

United States Seaplane-Carrier

It is expected, says *The Times*, that the new aircraft-carrier which has just been completed for service in the United States Navy will go into commission this week. This vessel, which formerly belonged to the Emergency Fleet of merchant ships, was taken over by the Navy Department while still in the course of construction, in order to convert her into an aircraft tender and repair ship. The ship was launched in April of last year, and named after Wilbur Wright, one of the pioneers of flying in America.

The recent Parliamentary Paper, "The Fleets of the World," credits the United States with only two aircraft-carriers—the "Langley," built, and the "Wright," building; but it is understood that the latter vessel on commissioning will relieve either the "Aroostook" or the "Shawmut,"

table of French class "B" W/T Stations given in paragraph 8 of Notice to Airmen No. 61 of 1921.

(No. 91 of 1921.)

Norwegian Map for Airmen

THE scale of 1/750,000 shown on the map on p. 673 of FLIGHT was the scale in the original form. This should be ignored, as the map was reduced for reproduction, and the mile/kilom. scale only should be used.

both of which vessels are at present in use as aircraft-carriers with the American fleets.

The Air Port of Prague

PRAGUE is slowly but—let us hope—surely becoming an air port of some importance, a position to which her geographical situation would appear to entitle her. The aerodrome is situated at Kbely, a small village on a plateau to the north-east of Prague, forming a splendid natural site for an aerodrome. It is here that the machines from Paris, which depart from Le Bourget at six in the morning, arrive round about two in the afternoon, leaving again for Paris the next morning at 11.30. In addition to this daily service to Paris and Warsaw, Prague will, during the next few months, also have its service to Budapest, Belgrade, Bucharest, Dresden, Berlin, and Constantinople. For the extension to the Turkish capital a new machine has been ordered. This is, we learn with some surprise, one of the four-engined Blériots (presumably the "Mammouth," one version of which was exhibited at the last Paris show. The new machine is stated to have accommodation for sixteen passengers with luggage, and to have an average speed of 120 m.p.h., with four engines of 300 h.p. each. Even accepting the speed, 75 h.p. per passenger does not impress one as a particularly good commercial proposition.

British Exhibits at Paris

As far as we are aware, the Paris Show will suffer, this year, from an almost complete absence of British exhibitors. This, although very much to be regretted, is not, perhaps, altogether unexpected, and it is therefore with all the more satisfaction that we are able to announce that the Bristol Aeroplane Co., Ltd., will be exhibiting one of their "Jupiter" engines. We had an opportunity of seeing several of these engines recently at the Filton works of the company, and we were very much impressed by the superb workmanship and finish put into them. There are certainly no better finished aero engines in the world, and few come up to the Bristol standard. Lately several refinements have been incorporated in the design, and that the engine is now not far short of perfection is proved by the fact that it has recently passed its Air Ministry type-tests with flying colours. This in itself is sufficient proof that there cannot be much to find fault with in an engine. We hope to return in more detail to the "Jupiter" in one of our Paris Show issues.

THE ROYAL AIR FORCE

London Gazette, October 11

Permanent Commissions

Stores Branch

Pilot Offr. G. Baker is granted a permanent commn. as a Flying Offr., with effect from, and with seniority of, Sept. 12, 1919, and is transferred to the Stores Branch with effect from June 17, 1920. (*Gazette*, Sept. 12, 1919, appointing him to a short service commn. is cancelled.)

Short Service Commissions

The follg. Flight-Lieuts. are granted short service commns. as Flying Offrs.: D. E. Dean, A.F.C., Hon. J. H. B. Rodney, M.C.; Oct. 4. These offrs. will be placed at the head of the list of Flying Offrs., but junior to all offrs. similarly reduced in rank on the grant of permanent or short service commns. Flight-Lieut. V. H. Baker, M.C., A.F.C., resigns his commn., and is permitted to retain rank of Capt.; Oct. 1.

Dental Branch

Flight-Lieut. L. S. Kettlewell relinquishes his temp. commn. on ceasing to be employed, and is permitted to retain rank of Capt.; Sept. 20.

Stores Branch

Flying Offr. on probation L. A. W. Stower, M.C., relinquishes his temp. commn. on ceasing to be employed; Sept. 20. The temp. commn. of Pilot Offr. on probation R. C. Hancock is terminated on cessation of duty; Sept. 27.

London Gazette, October 14

Re-seconding, etc.

The following remain attached to the R.A.F. for a further two years, or as otherwise stated (Aug. 1):—

Squadron-Leaders.—H. B. Bonning (Paymr. Lt.-Comdr., R.N.), H. L. Jackson, C.B.E. (Paymr. Lt.-Comdr. R.N.), for duration of present appt. W. G. W. Prall (Paymr. Lt.-Comdr., R.N.), A. A. E. Robinson, O.B.E., (Paymr. Lt.-Comdr., R.N.), until Feb. 15, 1922, G. H. Thomson, O.B.E. (Paymr. Lt.-Comdr., R.N.), for one year, W. J. D. Pryce, O.B.E., D.C.M. (Capt. and Qmr., Gen. List), until retirement from Army.

The following are re-seconded for duty with R.A.F. for a further two years, or as otherwise stated (Aug. 1):—

Wing-Comdrs.—N. G. Darnell (Capt., Bt. Maj., R. Inniskilling Fus.); C. Fraser, C.M.G., O.B.O., M.C. (Capt., N. Staffs. R.).

Squadm.-Ldrs.—G. G. Adeley (Capt., R. Ulster Rif.), A. R. Boyle, O.B.E., M.C. (Capt., A. and S. Highrs.), A. W. C. V. Parr (Lt., Rif. Brid.), W. R. Read, M.C., D.F.C., A.F.C. (Capt., 1st King's D. Gds.).

Flight-Lts.—G. C. Anne, O.B.E. (Capt., K.O. Yorks. L.I.), A. J. W. Barmby, O.B.E. (Capt., Green Howards), W. J. Dew, M.B.E. (Capt., Queen's R.R.), R. Gamber-Parry (Lt., R. Welch Fus.), L. W. Hall (Lt., Bord. R.), J. P. H. Hayes (Lt., R. Ir. Fus.), W. Helmore (Lt., R.A.), W. Hodgson, O.B.E. (Lt., D. of Wel. R.), J. S. Holloway (Capt., Dorset R.), R. G. Howe (Capt., Black Watch—since placed on Half-pay List), J. A. M. Lang, O.B.E. (Capt., Sher. Fors.), R. H. G. Neville, M.C. (Lt., D. of Corn. L.I.), R. J. Sanceau (Lt., E. Sur. R.), R. H. C. Usher, M.C., A.F.C. (Lt., Wilts. R.), A. Wombwell (Lt., Linc. R.).

Flying Offrs.—W. A. Berry (Lt., 4th D. Gds.), R. V. Bramwell-Davies (Lt., R.F.A.), C. W. Busk, M.C. (Lt., Suffolk R.), H. E. Y. Carroll (Lt., 8th

K.R. Ir. Hus.), J. E. Gatherall, M.B.E. (Lt., R. War. R.), W. B. Clarke, M.G. (Lt., R.G.A.), T. O. Glogstoun (Lt., R. War. R.), H. G. Crowe, M.C. (Lt., R. Ir. R.), L. Darvall, M.C. (Lt., Green Howards), E. N. T. Edwards (Lt., R.F.A.), F. C. Farnington, M.C. (Lt., R.A.), P. N. Hart (Lt., Black Watch), C. F. Horsley, M.C. (Lt., Norf. R.), R. M. C. Macfarlane, M.C. (Lt., R.A.); C. E. Maitland, D.F.C. (Lt., R.G.A.), J. A. Mansfield, M.C. (Lt., R. Ir. Fus.), W. H. Markham (Lt., Manch. R.), A. F. Quinlan (Lt., O.O.R.W. Kent R.), H. V. Robbins (Lt., Border R.), I. M. Rodney (Lt., Dorset R.), C. H. Stilwell (Lt., E. Surrey R.), A. J. G. Styran, M.C., A.F.C. (Lt., R.A.), H. E. Tansley, M.C. (Lt., K.R.R.C.), J. P. Walters, M.B.E. (Capt., R. Dub. Fus.).

Observer Offrs.—C. C. Abraham (Lt., K. Shrops. L.I.), S. Barnes (Lt., R.F.A.), W. E. (Brabazon) Dowling (Capt., E. Lancs. R.), A. V. McKiever, A.F.C. (Lt., Seaforth Highrs.), M. (George) Ryan (Lt., E. Lancs. R.).

Flying Branch

Pilot Offr. W. E. Harper to be Observer Offr.; Dec. 15, 1919. Lt. W. E. Harper is transferred to the Unemployed List; Feb. 13, 1920. (Substituted for *Gazette*, Feb. 24, 1920.)

Administrative Branch

Flying Offr. H. W. Bower is removed from the R.A.F.; Oct. 4.

London Gazette, October 18

Short Service Commissions

The following are granted short service commns. as Flying Offrs., with effect from, and with seny. of Oct. 5: W. J. Buchanan, D.F.C., C. W. Cudemore, M.C., D.F.C., R. D. V. Howard (from Pilot Offr.), Sqdn.-Leader, C. Draper, D.S.C., resigns his commn.; Oct. 6. Flying Offr. J. D. Hewett resigns his commn., and is permitted to retain the rank of Lieut.; Sept. 8.

Flying Branch

Sec. Lieut. R. A. Jacquot, unemployed list, relinquishes his temp. commn. on joining the Army; Aug. 25.

Administrative Branch

The following Flying Offrs. relinquish their temp. commns. on ceasing to be employed, and are permitted to retain the rank of Lieut.: F. C. Bird, W. G. Chate, C. Freeman, B. A. Matthews, W. B. T. O'Sullivan, A. Worthington, J. B. West; Oct. 1. Flying Offr. (actg. Flight-Lieut.) G. F. Ansell relinquishes his temp. commn. on ceasing to be employed, and is granted the rank of Capt.; Oct. 1.

Erratum

Gazette, Oct. 11, 1921.—For D. E. Dean, read R. E. Dean.

London Gazette, October 21

Permanent Commissions

Stores Branch

Flight-Lieut. W. J. B. Curtis, O.B.E., is transfd. to Stores Branch; Oct. 21.

Technical Branch

Lieut. R. A. Webster (O.) to be Lieut., Cat. A.; Aug. 13, 1918, substituted for *Gazette*, Feb. 7, 1919, and Jan. 21, 1919. Sec. Lieut. L. F. Bennett is transfd. to unemployed list; Nov. 6, 1919 (substituted for *Gazette*, Nov. 25, 1919).

ROYAL AIR FORCE INTELLIGENCE

Appointments.—The following appointments in the Royal Air Force are notified:—

Squadron-Leaders.—C. H. K. Edmonds, D.S.O., O.B.E., from No. 7 Group Headquarters (Inland Area) to Air Pilotage School (Caere), (Inland Area). (Supernumerary.) For duty as Instructor at R.A.F. Staff College (on formation), on ceasing to be attached to Air Ministry (D.T.O.). 1.11.21. B. E. Sutton, D.S.O., O.B.E., M.C., from R.A.F. Depot (Inland Area) to Air Pilotage School (Cadre) (Inland Area). (Supernumerary.) For duty as Instructor at R.A.F. Staff College (on formation). 22.12.21.

Flight-Lieutenant.—C. O. F. Modin, D.S.C., to No. 230 Squadron (Coastal Area), on ceasing to be attached to R.A.F. Base, Leuchars. 30.9.21.

Squadron-Leaders.—R. B. Maycock, O.B.E., from No. 230 Squadron (Coastal Area) to School of Naval Co-operation and Aerial Navigation (Coastal Area). To remain attached to School of Military Administration. 7.11.21. M. Henderson, D.S.O., from Aeroplane Experimental Establishment (Inland Area) to command No. 216 Squadron (Middle East Area). 15.10.21. J. H. Herring, D.S.O., M.C., from Inter-Allied Aeronautical Commission of Control (Germany) to No. 7 Group Headquarters (Inland Area). 17.10.21. F. C. Jobson, from R.A.F. Depot (Inland Area) to No. 7 Group Headquarters (Inland Area). 24.10.21. L. A. Pattinson, D.S.O., M.C., D.F.C., from Air

Ministry (D. of P.) to R.A.F. Depot (Inland Area) (Supernumerary). 14.11.21. C. E. Maude, from School of Naval Co-operation and Aerial Navigation (Coastal Area) to Air Ministry (D. of P.). 14.11.21. R. S. Overton, from Headquarters (Middle East Area), to Aircraft Depot, Egypt (Middle East Area). 31.5.21.

Flight-Lieutenants.—C. F. Gordon, O.B.E., M.C., D.F.C., from R.A.F. Airship Base (Coastal Area) to Air Ministry (D.O.I.). 19.9.21. C. G. Mathew, from Experimental Section, R.A.F. (Inland Area) to No. 39 Squadron (Inland Area). 1.11.21. A. R. Arnold, D.S.C., D.F.C., from No. 39 Squadron (Inland Area) to Air Ministry (D.O.I.). 17.10.21. C. B. Dick-Cleland, to Air Pilotage School (Cadre) (Inland Area), on ceasing to be attached to R.A.F. Airship Base. 29.10.21. B. E. Harrison, A.F.C., from No. 1 Flying Training School (Inland Area) to R.A.F. Depot (Inland Area). 24.10.21. W. E. Reason, from No. 1 Flying Training School (Inland Area) to No. 1 School of Technical Training (Boys) (Halton). 24.10.21. W. C. Clark, from Headquarters (Inland Area) to No. 6 Flying Training School (Inland Area). 1.11.21. R. S. Booth, A.F.C., from Inter-Allied Aeronautical Commission of Control (Germany) to School of Technical Training (Men) (Inland Area). 17.10.21. E. M. Pollard, from R.A.F. (Cadet) College (Flying Wing) (Cranwell), to Central Flying School (Inland Area). 17.10.21.

IN PARLIAMENT

Civil Aircraft, Germany

SIR W. SEAGER asked the Under-Secretary of State for Foreign Affairs whether he is aware of the enormous progress made in Germany in the manufacture of civil aircraft; whether, in view of the ease with which civil aircraft can be converted into military aircraft, he will consider the advisability of properly framing the definition of the differences between the civil and military type, and exercise great vigilance in seeing that Germany builds only in accordance with the Allies' rules, as she has pledged herself to do?

Capt. Guest: I have been asked to reply to this question. The German Government have agreed to surrender to the Allies all the civil aircraft (estimated at some 250 in number) constructed in Germany since the coming into force of the Treaty of Versailles, such manufacture having been held by the Allies to be contrary to the stipulations of the Treaty. In the meantime the construction of all aircraft in Germany is suspended until the Inter-Allied Aeronautical Commission of Control is satisfied that it has completed the aerial disarmament of the country. Germany has also agreed to accept the definitions drawn up by the Allies differentiating between aircraft for civil and commercial use and those that are potentially war machines, the manufacture of the latter being contrary to the Peace Treaty. Measures are being drawn up by the Allies for the effective surveillance of aircraft manufacture in Germany after the withdrawal of the Commission of Control.

SIR W. SEAGER: Is the hon. and gallant gentleman satisfied that the suspension of the manufacture of aircraft in Germany is being carried out, and will he see that the terms of the Treaty with regard to aircraft are rigidly enforced?

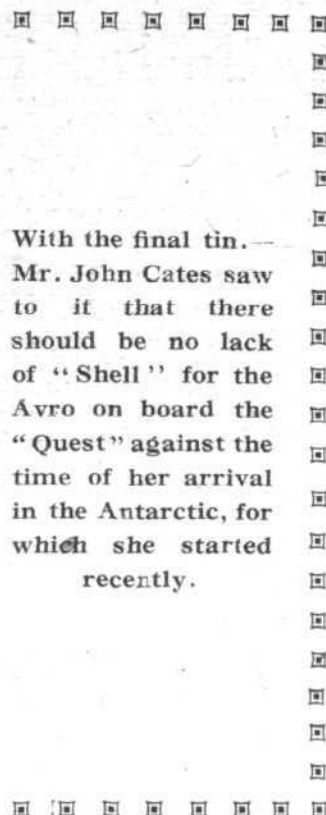
Capt. Guest: Yes, I am satisfied that the information I have given to the House is accurate.

Alula Wing

MR. RAPER on October 26th asked the Secretary of State for Air whether the Martinsyde "Semi-quaver," which was tested with an Alula wing on the 12th instant at Northolt, demonstrated itself to be of any interest as a fighting machine; if so, in what manner; if this machine had previously been tested for performance at Martlesham and for strength at Farnborough; and whether, during the test referred to at Northolt, the machine was tested with a roll, an Immelman turn, and a spinning nose-dive?

Capt. Guest: I attended the demonstration myself; it was a private one promoted by those connected with the development of the "Alula" wing. I understand that the object of the demonstration was to show that the "Alula" system of design was not incompatible with high speed. Hitherto it has been the weight-carrying qualities of the wing on which most emphasis has been placed. The machine, as shown, was not a practical fighting machine, and I do not think that those showing it had any intention of claiming it to be one. This machine has not been tested at either Martlesham or Farnborough, but certain investigations into its strength are being undertaken, and I have no intention of permitting an official test by an Air Ministry pilot until these investigations have shown the strength of the machine to be adequate.

As far as I am aware, the machine has not been rolled or spun, nor have Immelman turns been attempted. The closest attention is being given by the Research Department of the Air Ministry to this invention, and every opportunity will be afforded to the inventor to demonstrate the value of his device.



[The Editor does not hold himself responsible for opinions expressed by correspondents. The names and addresses of the writers, not necessarily for publication, must in all cases accompany letters intended for insertion in these columns.]

[2046] We beg to ask this letter to appear before your Edinburgh district readers with a view to completing a membership which is, at present, inadequate to call a definite business meeting.

The Club's object in aerial activities intends covering a most interesting programme, and model craft, kite photography and man-sustaining gliders will prove ample scope for all aerial enthusiasts.

Intending members should write to me at the address below, when further particulars will be sent.

A. CRAWFORD, Secretary
45, South Clerk Street, Edinburgh

REPORT No. 114 of the American National Advisory Committee for Aeronautics, entitled "Some New Aerodynamical Relations," by Max M. Munk, contains three new relations extending the modern theory of aeronautics, intended to be applied in some later papers. They deal with phenomena in a frictionless fluid. The first part contains a relation between the power absorbed by an aerofoil, and the power absorbed by a propeller. In the second part the exactness of the ordinary formula for the induced drag of an aerofoil is examined, and the error is determined. In the third part the author shows that for the calculation of the air forces on bodies of considerable volume the imaginary sources and sinks equivalent to the flow around the body can be used in the same way as vortices are used for the calculation of lift and induced drag of wings. A copy of Report No. 114 may be obtained upon request from the National Advisory Committee for Aeronautics, Washington D.C.

Report No. 121. *The Minimum Induced Drag of Aerofoils.*
National Advisory Committee for Aeronautics, Navy Building,
Washington, D.C., U.S.A.

Technical Note No. 64. *N.A.C.A. Recording Air Speed Meter*. By F. H. Norton. National Advisory Committee for Aeronautics, Navy Building, Washington, D.C., U.S.A.

La France, No. 1. A Review of the French Press, published (weekly) by Evans Brothers, Ltd., Montague House, Russell Square, W.C. 1., Price 2d.

Abbreviations: cyl. = cylinder; I.C. = internal combustion; m. = motors
The numbers in brackets are those under which the Specifications will be printed and abridged, etc.

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Published October 27, 1921

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